

ABSTRACT

By specifying an initial oxygen concentration in a silicon single crystal and a concentration of thermal donors produced according to a thermal history from 400°C to 550°C that the silicon single crystal undergoes during crystal growth, a nucleation rate of oxygen precipitates produced in the silicon single crystal while the silicon single crystal is subjected to a heat treatment is determined. Further, by specifying the heat treatment condition of the silicon single crystal, an oxygen precipitate density and an amount of precipitated oxygen under a given heat treatment condition are predicted by calculation.